United States Environmental Protection Agency

Solid Waste and Emergency Response

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Summer 1994

EPA

Superfund At Work

Hazardous Waste Cleanup Efforts Nationwide

Ambler Asbestos Site Profile

Site Description:
Former asbestos manufacturing facility

Site Size: 23 acres

Primary Contaminants: Asbestos

Potential Range of Health Risks:
Respiratory disorders and lung cancer

Nearby Population:
6,000 people within a half mile

Ecological Concerns:
Birds, animals, and aquatic species in Wissahickon Creek

Year Listed on the NPL: 1986

EPA Region: III

State: Pennsylvania

Congressional District: 13

Success in Brief

Cooperative Efforts Abate Asbestos Hazards

In the 1930s, without realizing the potential hazard,a pharmaceutical company started dumping asbestos manufacturing wastes on its property in Ambler, Pennsylvania. Subsequent landowners continued in a similar fashion until more than 1.5 million cubic yards of contaminated waste towered above the community in three huge piles, one as high as 70 feet.

When asked for help by the state, the U.S. Environmental Protection Agency (EPA) faced a serious dilemma: removing that much asbestos would send an enormous amount of dangerous fibers airborne to be spread by the wind in all directions. A solution was reached to immobilize and cover the asbestos, minimizing the threat of exposure.

Following emergency actions to stabilize the site, EPA located the parties responsible for the site and negotiated two agreements to conduct the cleanup. Cooperative efforts ensured community input and steady construction progress. Trees and other vegetation now cover Ambler's three steep "mountains' which stand out in otherwise flat surroundings. Birds and small animals come and go freely to the site from an adjacent nature preserve.

Photo courtesy of Jim Feeney, U.S. EPA Region 3

An abandoned playground on Locust Street next to the "white mountains" of asbestos wastes.

A Site Snapshot

This 23-acre waste site is in Ambler, Pennsylvania. Asbestos manufacturing facilities operated there for almost a century. Improper asbestos waste disposal most likely commenced on the property in the 1930s.

About 6,000 people live within a half mile of the site but the closest residence is only 200 feet from the property's perimeter. A public playground was on the site but closed in 1984. The site is surrounded by a mix of residential, industrial, and undeveloped areas.

Until the 1970s, asbestos was considered non-toxic and manufacturing wastes were simply dumped outside, exposed to the elements. A total of 1.5 million cubic yards of asbestos-contaminated wastes were abandoned on the site in three hugh piles still remembered by some local residents as, "the white mountains".

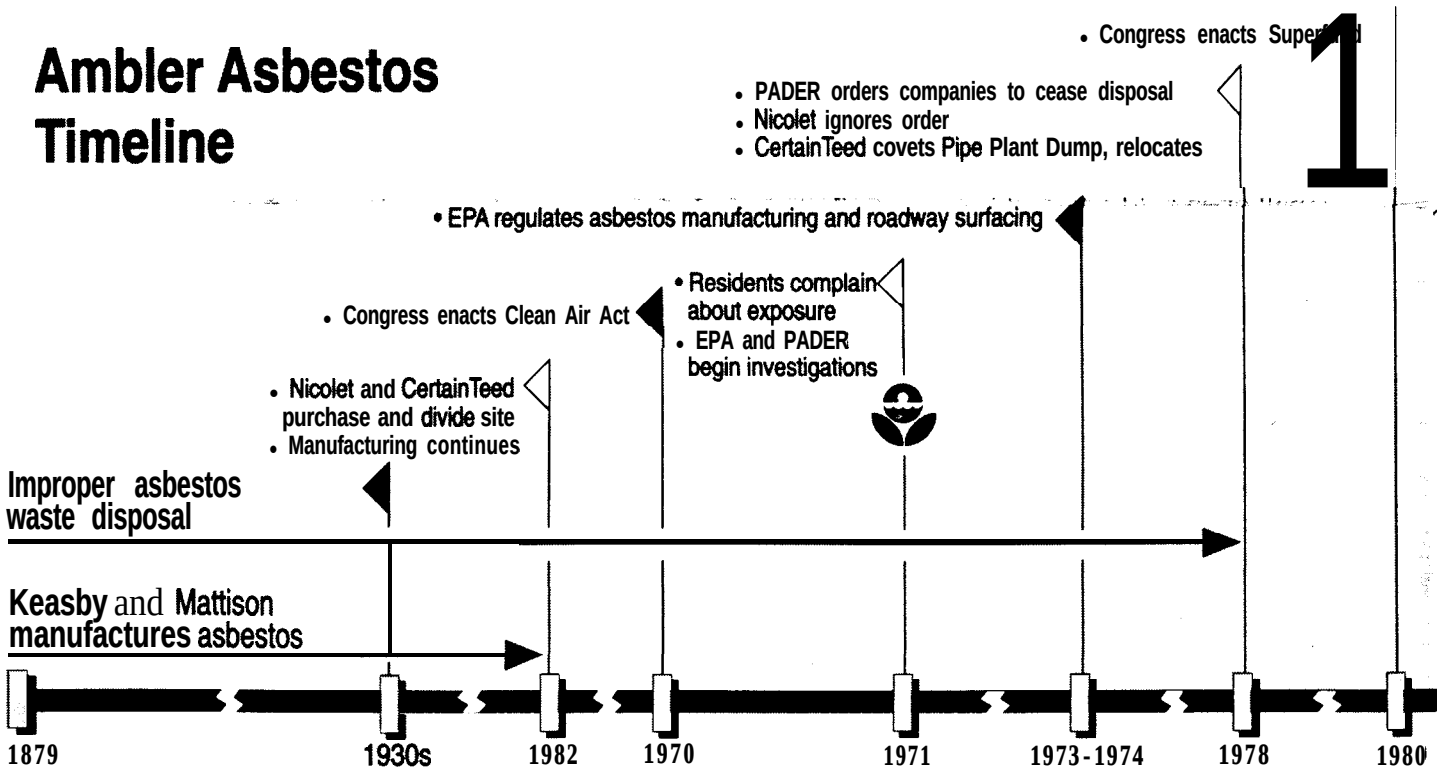
Notable levels of asbestos also were also found in Wissahickon Creek which borders the property. Although the creek does not supply drinking water, the Four Hills Nature Preserve is directly adjacent to the site and supports birds, small animals, and aquatic species (see page 5). *For a discussion of the health effects, see "Asbestos in America" on page 6.*

White Asbestos M

Asbestos Wastes Mount

As an extension of a pharmaceutical business, the Keasby and Mattison Company began manufacturing asbestos products at Ambler in 1897. During the 1930s, the company dumped the contaminated manufacturing wastes in ever-growing, unprotected piles on the property.

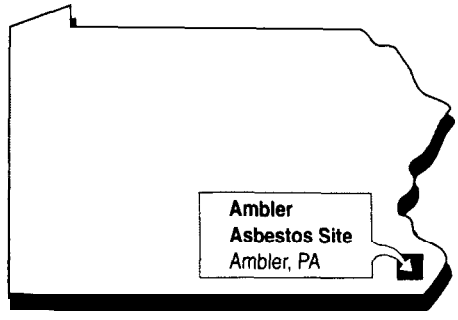
In 1962, two corporations, Nicolet and CertainTeed, purchased portions of the site and divided the land between them. The companies continued making asbestos products and dumping waste materials on the property. Employees from Nicolet took asbestos wastes to two areas now known as the Locust Street Waste Pile and the Plant Waste Pile. The company also pumped



ıntains Turned to Green Hills

contaminated wastewater into settling ponds and lagoons built on the site. CertainTeed disposed of asbestos trash in another area of the site known as the Pipe Plant Dump.

In **1970,** Congress enacted the Clean Air Act establishing EPA's first asbestos abatement program. The Act required EPA to set National Emission Standards for Hazardous Pollutants (NESHAPs). In 1971, EPA determined asbestos to be a hazardous air pollutant because of the fibers' ability to cause serious respiratory disorders, lung cancer, and even death. In 1973, EPA issued regulations to control asbestos emissions from manufacturing, milling, roadway surfacing, and demolition projects.

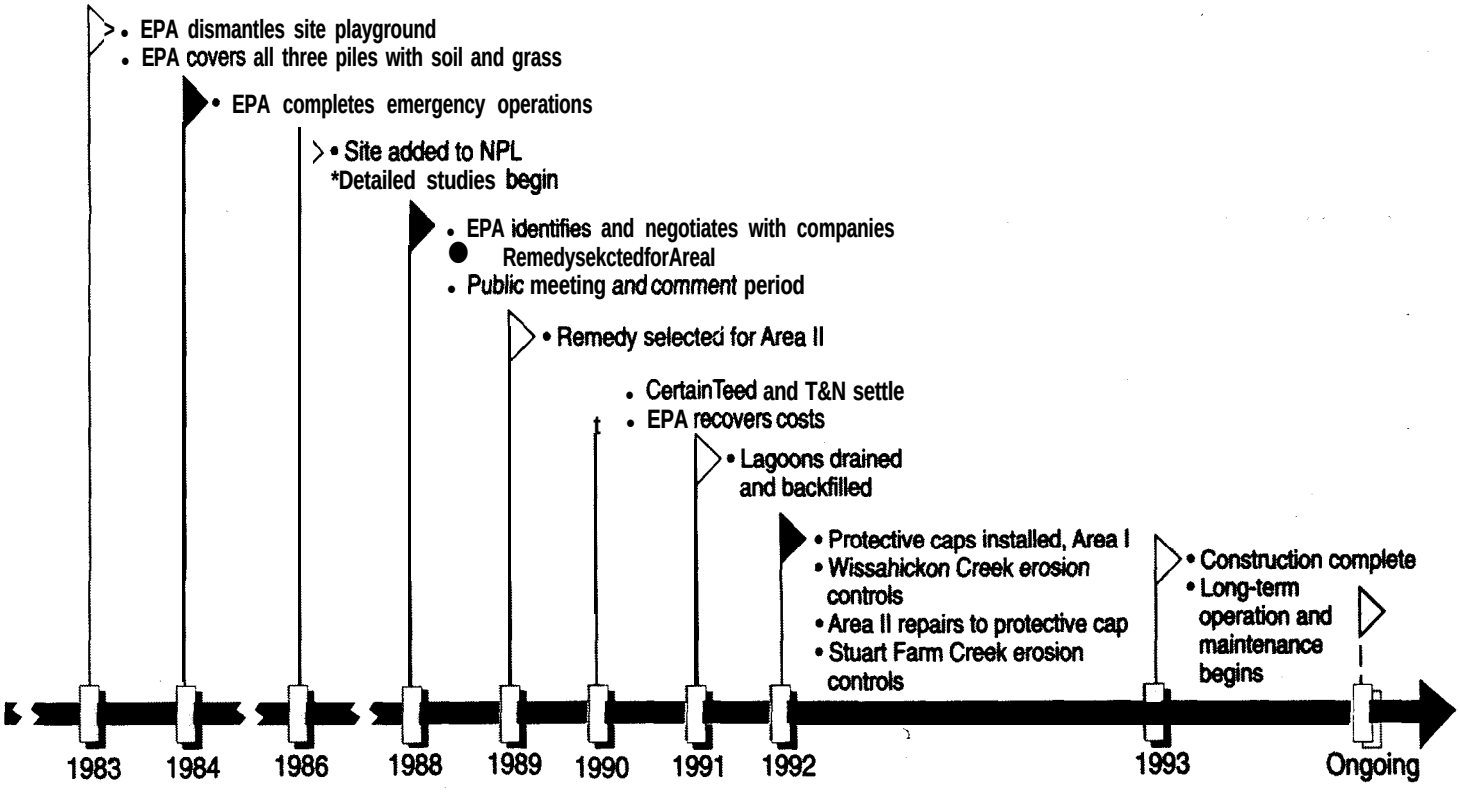


Complaints about visible emissions and dust from the site had been registered by area residents with the Pennsylvania Department of Environmental Resources (PADER) since 1971. Both Nicolet and CertainTeed were operating without permits until PADER ordered both companies in 1973 and 1974 to stop dumping wastes and take action to control emissions. CertainTeed complied, covering the Pipe Plant Dump with soil and seeding for grass, and then relocated operations. Nicolet appealed the order and continued dumping asbestos wastes **on** the uncovered piles until at least 1976.

EPA Addresses Threats

In 1980, Congress established the Superfund program within EPA with a primary **goal** of cleaning up the nation's hazardous waste sites. Whenever possible, EPA locates those responsible for the site contamination and tries to negotiate the use of private resources for cleanup.

At **the state's** request, EPA began a preliminary assessment of the site shortly thereafter. With help from the Centers for Disease



Control and Prevention (CDC), EPA sampled the Ambler site and surrounding area to determine the extent of contamination. After scientists detected asbestos fibers on playground equipment in November 1983, EPA warned the community that the area was unsafe and the playground equipment was dismantled.

Scientists detected asbestos fibers on playground equipment

EPA then undertook emergency actions to minimize exposure by covering the Locust Street Pile with topsoil and seeding for grass. Nicolet cooperated by covering over the Plant Waste Pile. EPA then installed a drainage system to prevent contaminated rainwater from running off the site.

In 1984, EPA proposed to add the site to the National Priorities List (NPL) of serious uncontrolled or abandoned hazardous waste sites eligible for cleanup under the Superfund program. Following a period of public comment, the site was officially added to the NPL in June 1986.

Responsible Parties Agree to Settlement Terms

With separate parties responsible for distinct areas of contamination, EPA divided the Ambler site into two areas, one including the Locust Street Pile, the Plant Waste Pile, and the waste lagoons; the other the Pipe Plant Dump. Negotiations with past and present owners and operators of the site to conduct the cleanup began in July 1988.

A search of company records led EPA to the T&N Corporation, a major shareholder of the old Keasby and Mattison Company. Together with Nicolet Industries, the companies were responsible for Area I, but Nicolet had declared bankruptcy in 1987 and subsequently agreed to a cash settlement with EPA through the court. The CertainTeed Corporation agreed to clean up Area II and reimbursed EPA $55,042 for past cleanup costs.

Cleanup Begins

Following a public comment period, EPA selected a remedy for Area I that included several different aspects. Under EPA supervision, workers from T&N pumped out collected water, stabilized the remaining sludge, and backfilled the lagoons with clean soil. Workers also repaired and replanted eroded areas on the slopes of the two piles and cleared trees and shrubs from the plateaus.

Engineers then installed protective caps over the Locust Street Pile and the Plant Waste Pile which included semi-permeable geotextile covers and a top layer of crushed stone. Workers also installed a concrete blanket on the bank of the Wissahickon Creek to prevent erosion of the side slope.

The plan further required repairing the protective fence surrounding the site, placing warning signs along the site perimeter, and monitoring the area for 30 years to ensure the long-term effectiveness of the remedy.

EPA negotiates with private parties for cleanup

Cleanup of the smaller Pipe Plant Dump (Area II) included clearing shrubs and trees from the waste pile and grading more soil on top to reinforce the protective cover built in late 1983 during EPA's emergency removal. CertainTeed workers also installed erosion control devices (gabions) on the banks of Stuart Farm Creek, repaired the fence, and posted warning signs. The company must monitor the protective cap and site conditions for 30 years. All field construction activities at both Areas were completed in November 1992.

Responding to Local Concerns

Area residents often take an active interest in EPA's actions **to clean** up a site. EPA encourages this participation and works with neighbors to ensure that residents' concerns are heeded. EPA worked closely with the citizens of Ambler to provide information and updates of anticipated cleanup actions.

During theemergency removal actions, the Locust Street playground was dismantled and removed and a fence constructed to restrict access. After the asbestos waste piles were stabilized, a local company (Interspec) wanted to build a basketball court at the site of the old playground; EPA arranged for the fence to be moved to accommodate the blacktop court.

Workers from T&N worked with local officials to move the fence closer to the Locust Street Pile to facilitate grass cutting in the city's regular schedule. The community has now gained a small **open field adjacent to the** basketball court.

With regard to the selection of site remedies, citizens expressed concern about a storm water culvert that flowed into a grassy area near Wissahickon Creek. During field activities, the culvert was extended to discharge into an existing channel. In addition, local officials wanted access to an underground sewer line that ran alongside and beneath the waste piles. Both T&N and CertainTeed voluntarily located long-buried manholes so the citycould have access to this sewer line.

During the design of the erosion control device for Wissahickon Creek, the Wissahickon Valley Watershed Association raised concerns about the aesthetic appearance of the original **design. This** group leases the Four Mills Nature Reserve directly adjacent to the site. In response, T&N submitted a second and yet a third design that would preserve the erosion control effectiveness of the device while minimizing any negative visual impact. Citizens and local officials expressed satisfaction to be included in the decision-making process.

Photo: Frank Martin, U.S. Fish & Wildlife Service

The Four Mills Nature Preserve is home to **Mallards**, Wood Ducks, Belted Kingfishers, turtles, muskrats, at least 20 species of fish, and many other woodland and aquatic animals.

Asbestos in America

Prior to 1970, asbestos was considered non-toxic and used for fire-proofing and to insulate homes, office buildings, and schools. But when factory workers began showing an increased rate of lung cancer, scientists identified asbestos as a major contributor to respiratory disorders and lung diseases.

"Asbestos" is the name for a group of naturally occurring minerals that separate into strong, microscopic fibers that are heat resistant, odorless, and very durable. Friable (easily crushed or pulverized) asbestos emits microscopic fibers into the air when even slightly disturbed. These fibers are easily inhaled and can cause a host of respiratory disorders. Lung cancer is the most frequently seen asbestos-caused disease and is more likely to occur if the exposed person is a smoker. Asbestos also causes asbestosis, a chronic disease of the lungs that makes breathing progressively more difficult and can lead to death.

EPA has taken numerous actions since 1971 to regulate the manufacture, use, removal, transportation, and disposal of asbestos-containing products and materials. In 1984, the Asbestos School Hazard Abatement Act provided approximately $135 million in interest-tree loans to more than 1,500 schools to conduct asbestos control renovations. In 1986, the Asbestos Hazard Emergency Response Act required schools to identify areas of exposure to asbestos and submit corrective action plans. EPA then established training programs for proper inspection and removal procedures.

Because of continuing concerns about asbestos, EPA maintains a toll-free number for citizens at l-800-368-5888 (in Washington, D.C. call 202/557-1938).

Success at Ambler

EPA's actions at the Ambler Asbestos site began with an emergency removal that significantly reduced the potential for exposure to airborne asbestos. Successful negotiations with companies responsible for the site contamination resulted in a thorough and expedient remediation. In a spirit of cooperation, the companies volunteered to expand their commitment to the community beyond required cleanup activities.

In addition, the parties reimbursed EPA for a substantial portion of past costs incurred at the site. Active construction at the site was completed ahead of schedule and a long-term operation and maintenance plan is underway.

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